

Translation

(1) **EU-Type Examination Certificate**

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres, **Directive 2014/34/EU**



- (3) **Certificate Number** **TÜV 98 ATEX 1380 X** **issue:** 00
- (4) for the product: Isolating amplifier VP-1, VP-2 resp. VP-4
- (5) of the manufacturer: **FAFNIR GmbH**
- (6) Address: Schnackenburgallee 149 c, 22525 Hamburg, Germany
- Order number: 8000466920
- Date of issue: 2017-09-05

- (7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.
- (8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential ATEX Assessment Report No. 17 203 191840.
- (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-11:2012
except in respect of those requirements listed at item 18 of the schedule.
- (10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.
- (11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the product shall include the following:

 II (1) G [Ex ia Ga] IIC
II (1) D [Ex ia Da] IIIC

TÜV NORD CERT GmbH, Langemarckstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body



Andreas Meyer

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

This certificate may only be reproduced without any change, schedule included.
Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH

(13) **SCHEDULE**

(14) **EU-Type Examination Certificate No. TÜV 98 ATEX 1380 X issue 00**

(15) Description of product

The isolating amplifier type VP-... is an associated apparatus which is used for the transmission of electrical signals from the hazardous explosive area to the non-hazardous explosive area resp. preferably for powering of electronic filling level sensors and forwarding of measuring values to a superordinate evaluation system. It is designed as a module of a tank level measuring system. The types vary in the number of IS sensor circuit.

The isolating amplifier shall be only used outside the hazardous area and must be installed inside an IP20 enclosure according to IEC 60529.

Type Code

- VP-1: Eight intrinsically safe sensor circuits
- VP-2: Two intrinsically safe sensor circuits
- VP-4: Four intrinsically safe sensor circuits

Technical data

Supply circuit "Power"
(terminals L, N, PE)

$U_n = 230 \text{ VAC} \pm 10\%$; approx. 2 VA, $U_m = 253 \text{ V}$ resp.
 $U_n = 115 \text{ VAC} \pm 10\%$; approx. 2 VA, $U_m = 138 \text{ V}$ resp.
 $U_n = 24 \text{ VAC} \pm 10\%$; approx. 2 VA, $U_m = 36 \text{ V}$

Sensor circuits "1" to "8"
(terminals +, A, B, -)

in Type of Protection "Intrinsic Safety" Ex ia IIC/IIB/IIIC
Maximum values per circuit:

$U_o = 14.3 \text{ V}$
 $I_o = 27.5 \text{ mA}$
 $P_o = 98.1 \text{ mW}$

Characteristic line: linear

C_i negligibly small
 L_i negligibly small

The maximum permissible values for the external inductance (L_o) and capacitance (C_o) shall be taken from the following table:

	Ex ia IIC		Ex ia IIB/IIIC	
L_o	5 mH	2 mH	20 mH	10 mH
C_o	380 nF	480 nF	1.5 μF	1.8 μF

The aforementioned maximum values for L_o and C_o consider the coincidental appearance of concentrated capacitance and inductance.

Communication circuit
(plug connector)

$U_n = 5 \text{ V}$
 $U_m = 134 \text{ V}$

The intrinsically safe sensor circuits are safely galvanically separated from the supply circuit (terminals L, N, PE) up to a peak crest value of the voltage of 375 V and from the communication circuit (plug connector) up to a peak crest value of the voltage of 190 V.

Permissible range of ambient temperature:

-20 °C to +55 °C.

Schedule to EU-Type Examination Certificate No. TÜV 98 ATEX 1380 X issue 00

(16) Drawings and documents are listed in the ATEX Assessment Report No. 17 203 191840

(17) Specific Conditions for Use

The isolating amplifier has to be installed in a housing in such a way, that a degree of protection of at least IP20 according to EN 60529 is reached.

(18) Essential Health and Safety Requirements

no additional ones

- End of Certificate -